Figure 1

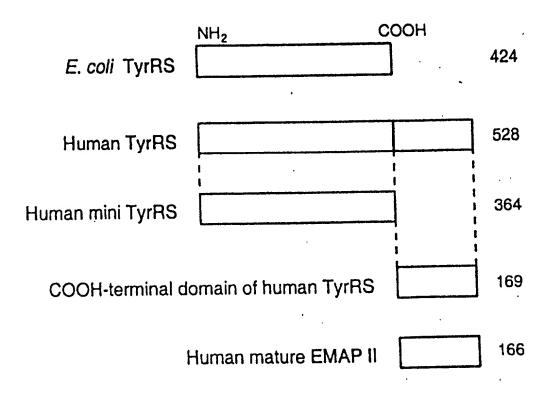


Figure 2

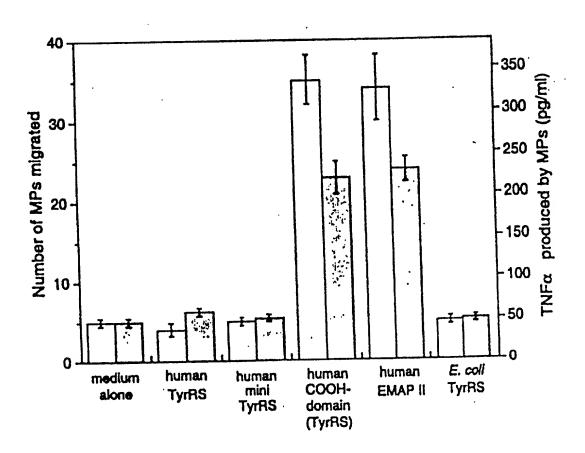


Figure 3

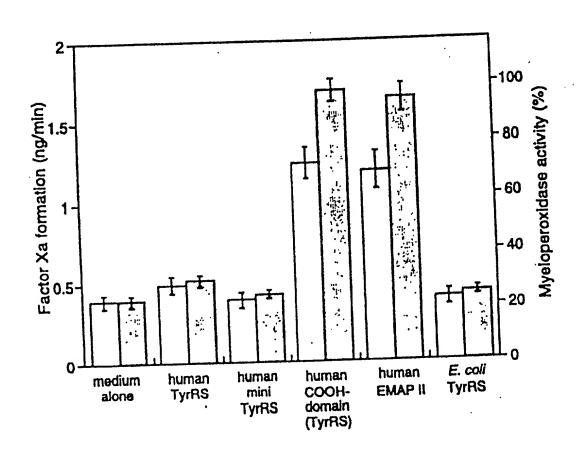


Figure 4

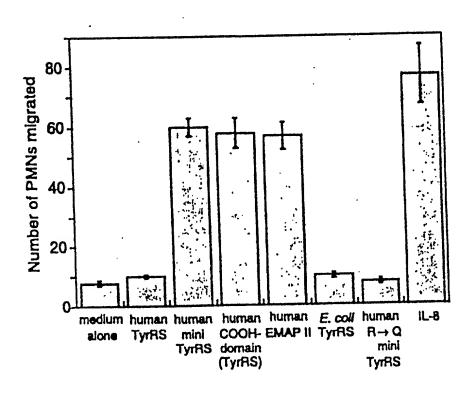


Figure 5

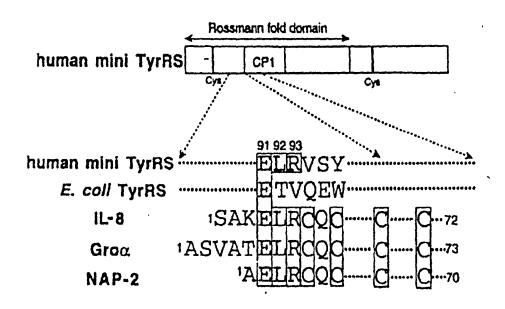


Figure 6

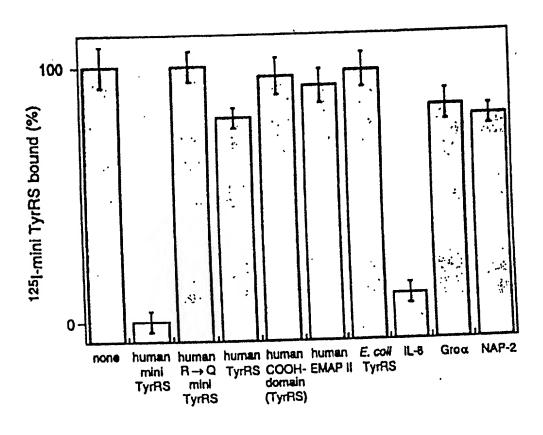


Figure 7

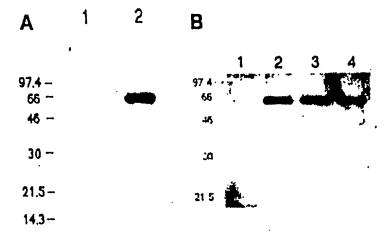


Figure 8

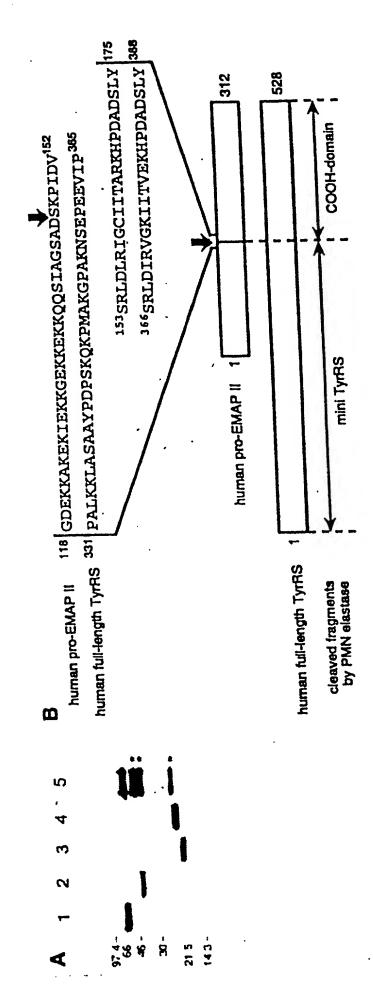


Figure 9

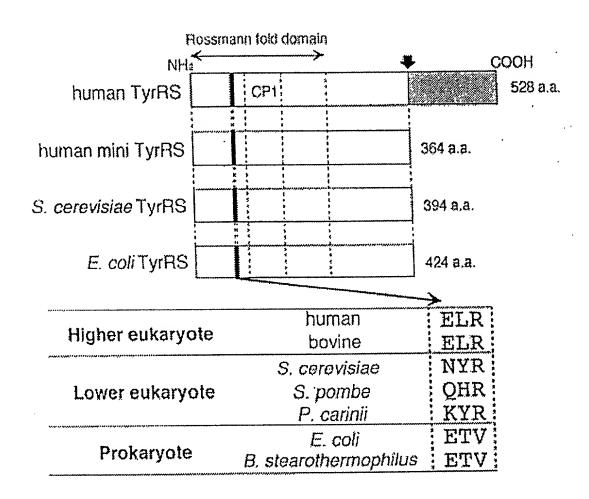


Figure 10

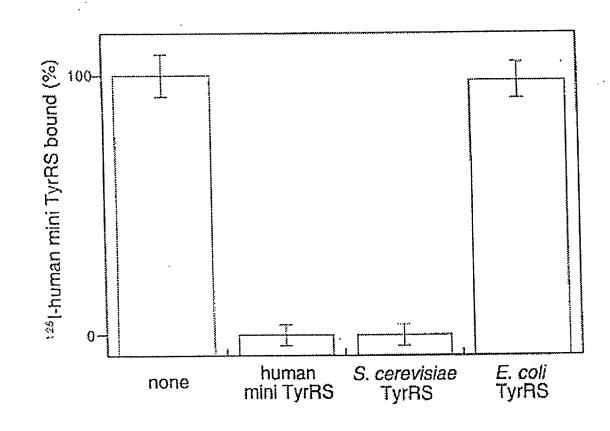


Figure 11

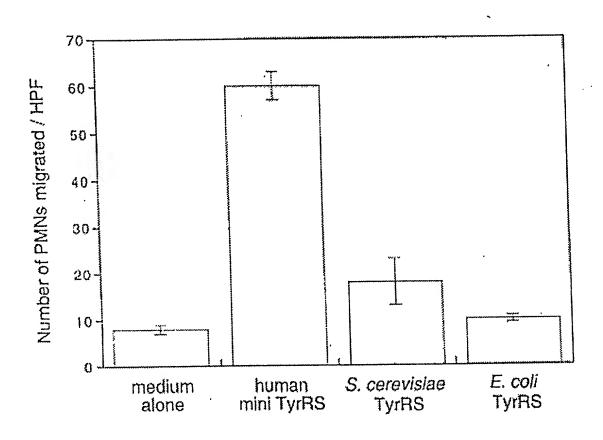


Figure 12

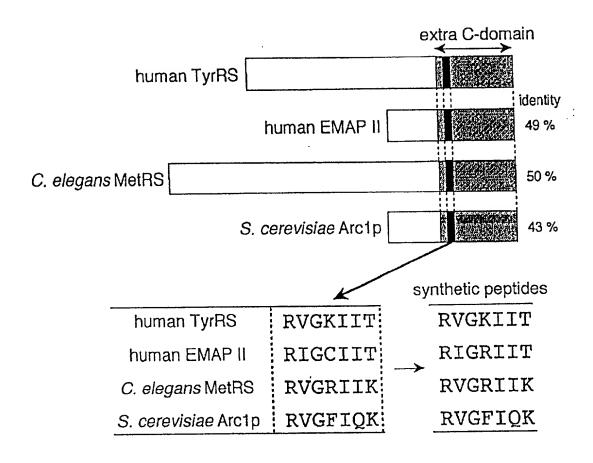


Figure 13

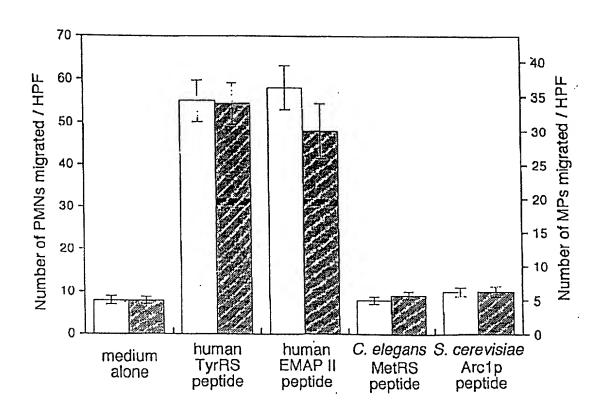
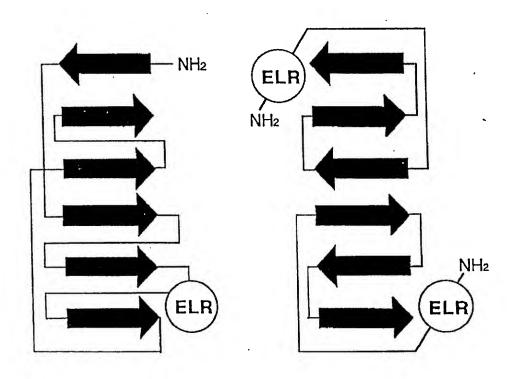
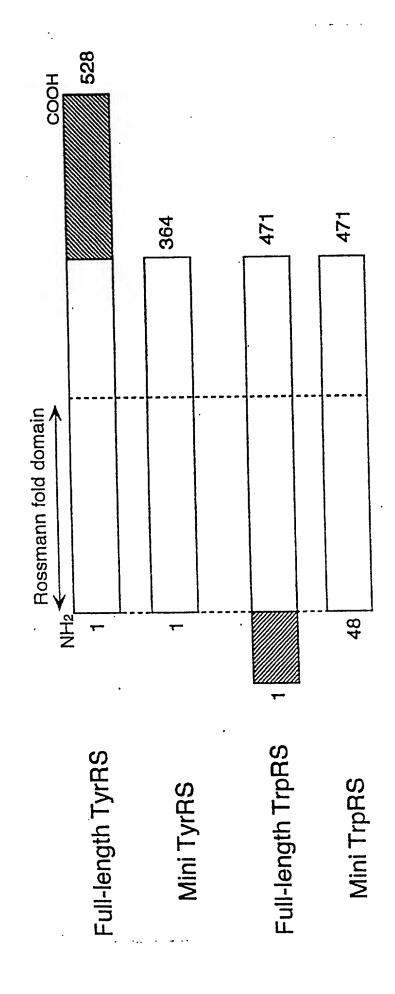


Figure 14



human mini TyrRS  $\alpha$ -chemokines

Figure 15



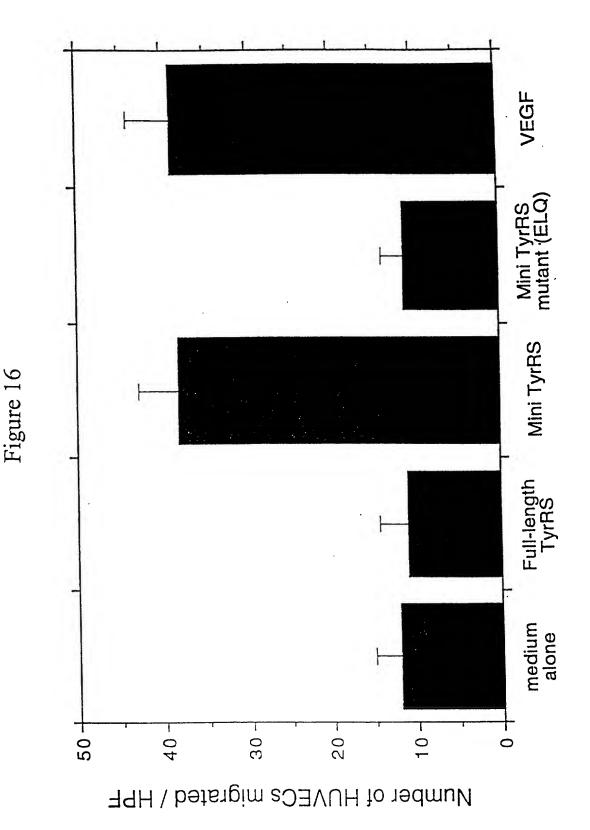


Figure 17

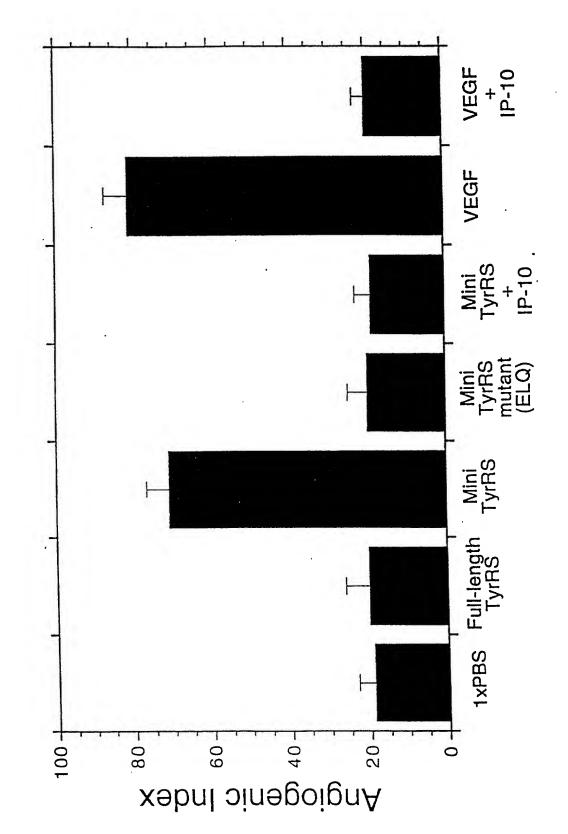
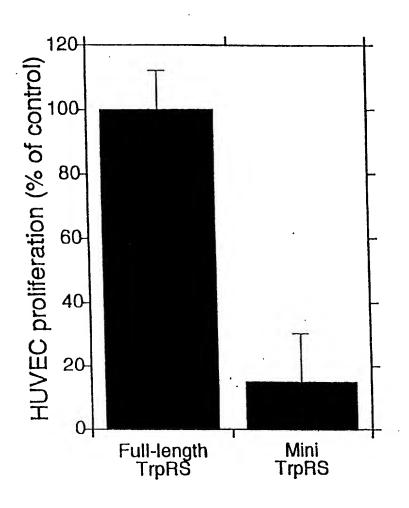
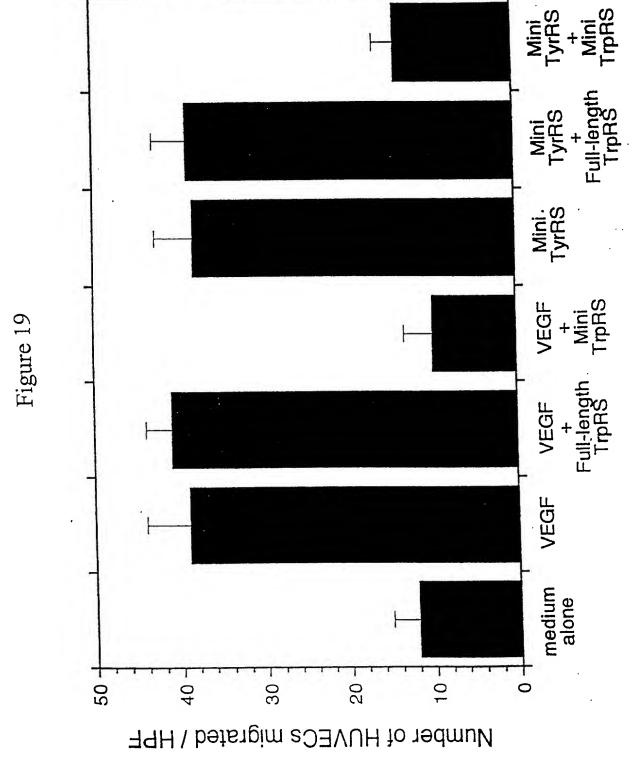


Figure 18





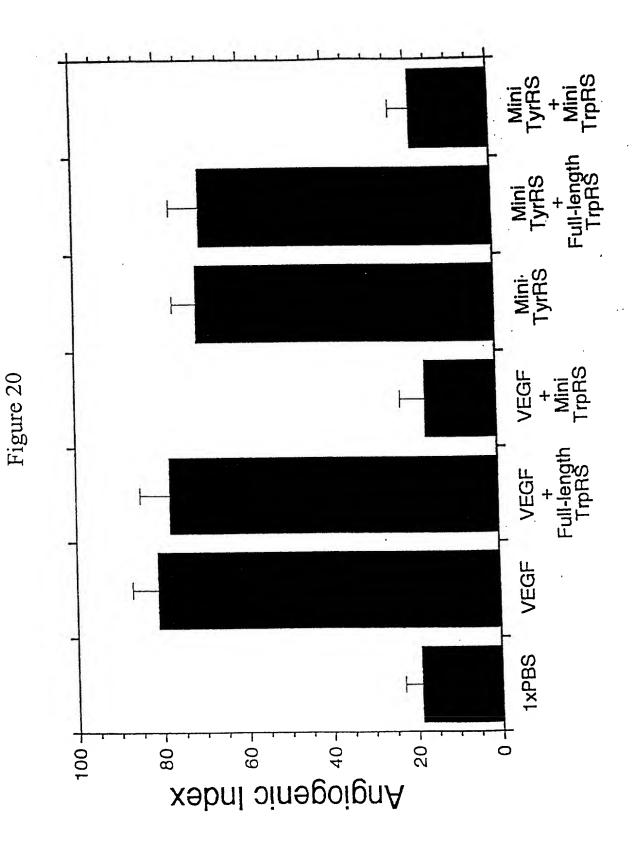
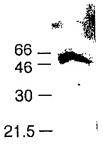
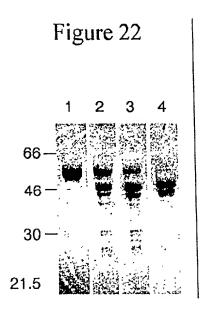


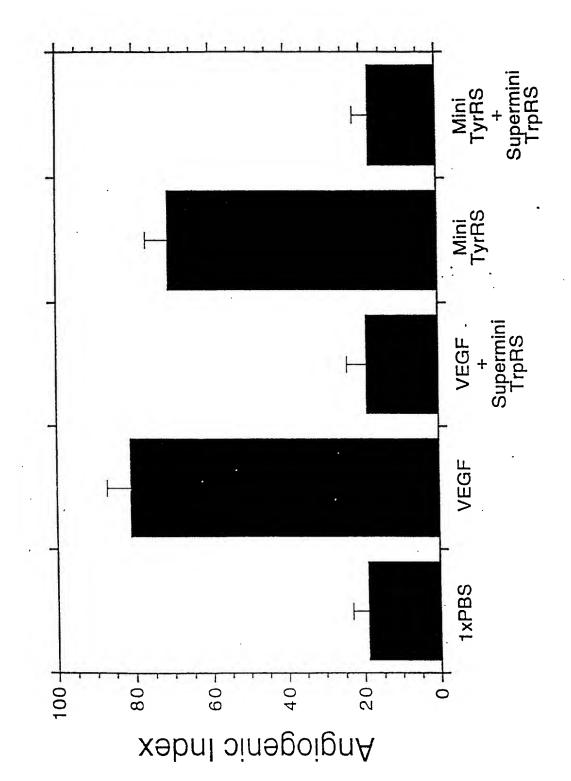
Figure 21



14.3







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Mini TrpRS Supermini TrpRS	48 MSYKAAAGEDYKADCPPGNPAPTSNHGPDATEAEEDFVDPWTV 90 42 MSYKAAMGEEYKAGCPPGNPTAGRNCDSDATKASEDFVDPWTV 84 42 TSYKEAMGEDYKADCPPGNSTPDSHGDPEAVDDKEDFVDPWTV 84 42 TSYKEAMGEDYKADCPPGNSTPDSHGDPEAVDDKEDFVDPWTV 84 406 1 SYQGRIPYPRPGTCPGGAFTPNMRTTKEFPDDVVTFIRNHPL 406  1 ** * * *	Minor TrpRS +ragmen+  91 QTSSAKGIDYDKLIVRFGSS-KIDKELINRIERATGQRPHHFL  86 QTSSAKGIDYDKLIVRFGSS-KIDKELINRIERATGQRPHRFL  85 RTSSAKGIDYDKLIVQFGSS-KIDKELINRIERATGQRPHRFL  85 RTSSAKGIDYDKLIVQFGSS-KIDKELVNRIERATGQRPHRFL  85 RTSSAKGIDYDKLIVRIGTDYKYTKIAVDRVNAADGRYHVLFL  407 MYNSISPIHRRPLIVRIGTDYKYTKIAVDRVNAADGRYHVLFL  * * * * * * * * * * * * * * * * * * *	Rossmann fold domain	Supermini TrpRS  AAAGEDYKADCPPGNPAPTSNHGPDATEAEEDFVDPWTVQTSSAKG  A7 AATGEDYKVDCPPGDPAPESGEGLDATEADEDFVDPWTVQTSSAKG  A6 AAMGEEYKAGCPPGNPTAGRNCDSDATKASEDFVDPWTVRTSSAKG  A6 EAMGEDYKADCPPGNSTPDSHGDPEAVDDKEDFVDPWTVRTSSAKG  BA6 EAMGEDYKADCPPGNSTPDSHGDPEAVDDKEDFVDPWTVRTSSAKG  A6 EAMGEDYKADCPPGNSTPDSHGDPEAVDDKEDFVDPWTVRTSSAKG  BA6 EAMGEDYKADIPETHGGEGYEDEIDDEYEGDWSNSSSSTSG  A6 AFAGEDFKVDIPETHGGEGYEDEIDDEYEGDWSNSSSSTSG  BA6 AFAGEDFKVDIPETHGGEGYEDEIDDEYEGDWSNSSSSTSG  A6 AFAGEDFKVDIPETHGGEGYEDEIDDEYEGDWSNSSSSTSG  BA6 AFAGEDFKVDIPETHGGEG
N	human TrpRS bovine TrpRS mouse TrpRS rabbit TrpRS human semaphorin-E mouse semaphorin-E	Figure 24	Mammalian Full-length TrpRS	human TrpRS bovine TrpRS mouse TrpRS rabbit TrpRS mouse neuropilin-2

Figure 25

